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Improving Education in Northern Namibia:

Using "IT" for Professional Development and Support

After its independence from South Africa in 1990, Namibia was beset with challenges, many emerging from the vestiges of apartheid's social and economic policies. Even after a smooth transition to democracy and the formation of a democratically elected government, wide disparities in social and economic development persisted, bolstered by an inequitable education system.

The government addressed the education problem by establishing a new Ministry of Education, which eventually separated higher education from primary and secondary education. The government also consolidated many smaller divisions and took steps to enhance the relevancy of Namibian education for its new society.

Also reformed was the National Institute for Education Development (NIED). Supported by the Ministry of Basic Education, Sport and Culture (MBESC), NIED is now a "think tank" for mobilizing resources for the betterment of education. Its two divisions undertake education research and develop the nation's primary and secondary school curricula, as well as its pre- and in-service teacher training curricula and materials. NIED works with teachers, schools, Teacher Resource Centers (TRCs), regional offices, MBESC, as well as colleges and international groups

concerned with educational resources and development.

ENTER "IT"

Although shortchanged in access to economic and development opportunities, Namibia has the advantage of an information and communication technology (IT) infrastructure unsurpassed by almost any nation in Africa. Linked by fiber optic cable to South Africa's satellite system, the nation is in a very good position to introduce IT into education.

In addition, the Ministry of Basic Education, Sport and Culture prepared *A Ten Year Plan for Educator Development and Support, 2000 - 2010* that aims to establish Educational and Development Support Units in all regions to meet the

development and training needs of teachers and administrators. Another *Ten Year* goal is to expand access to resources for teaching and learning as well as to improve educational administration. Underlying these objectives is the aim to reduce the disparities in teacher and administrative preparedness throughout the country. NIED, a major service provider, has adopted IT to deliver these services.

COMPUTER- ASSISTED TEACHER TRAINING (CATT)

Initially, USAID supported Namibia's emphasis on enhancing basic education and teacher training through the Basic Education Support (BES and BES II) activities, which focus on upgrading the quality of primary schools. The new Computer-Assisted Teacher Training (CATT) project adds IT to strengthen professional development and provide continuous educational support to teachers and administrators.

NOT TECHNOLOGY FOR TECHNOLOGY'S SAKE

Namibia is a very young country that is looking toward the future as it integrates modern technology into its education system. This offers a chance to quickly close the wide gap in teacher preparedness, which, according to UNESCO, had regional ranges from 6.3% to 50.8% in 1998. According to standards set in 1992,

Zoom in on Namibia

Geography
Location: Southern Africa, bordering the Atlantic Ocean and South Africa
Area: total: 825,418 sq km
Land use: arable land: 1%; permanent crops: 0%; permanent pastures: 46%; forests and woodland: 22%
Environmental issues: drought and very limited natural fresh water resources; desertification

People
Population: 1,648,270
Age: 44% <14 years; 52% 15-64; 4% >65
Population growth rate: 1.57%
Infant mortality rate: 65.94 deaths/1,000 live births
Life expectancy at birth: 41.26 years
Total fertility rate: 4.94 children born/woman
Ethnic groups: black 86%, white 6.6%, mixed 7.4% (about 50% belong to the Ovambo tribe)
Religions: Christian 80-90% (50% Lutheran), native religions10-20%
Languages: English 7% (official) and Afrikaans
Literacy: total: 38%; males: 45%; females: 31%

Economy
GDP per capita: $4,100
Inflation rate: 7%
Unemployment rate: 30-40%
External debt: $315 million

Communications
Telephones: 89,722
Radio broadcast stations: AM 4, FM 40
Radios: 195,000
Television broadcast stations: 8 (of which five are main stations; plus 20 low-power repeaters)
Televisions: 27,000
Personal computers per 1000: 19
**Internet hosts per 10,000:** 11.73
The World Factbook, 2001, www.odci.gov/ cia/publication/factbook/index.htm www.itu.int/ti/industryoverview/at_glance/ Internet99.pdf

AED/LEARNLINK IN AFRICA

Namibia's CATT project is one of three teacher training and professional development programs that LearnLink is implementing in Africa. The Namibia project's focus on in-service training for educators and project-based learning distinguishes it from LearnLink's work in Morocco—pre-service, teacher-centered training that eventually leads to full use of IT multimedia tools—and LearnLink's project in Uganda—focusing on online in-service and pre-service training to improve teachers' knowledge of subject content. The projects are similar in that they partner with national education professionals, digitize curriculum materials, train teachers to use IT, establish connectivity and multimedia centers for educators, and build a network of Master Information Teachers. Also, while the three activities differ in the nature and extent of Ministry involvement, who and how many are trained, the scope and content of training materials, and the method of training, all include development of web sites and educational resources for networking and knowledge transfer.

the percentage of qualified teachers was 6.3% in Rundu, where few gains were made since 1992, 20.9% in Katima Mulilo, where gains increased 10 times the figure in 1992, and 50.8% in Windhoek, which almost doubled gains since 1992.

The LearnLink-CATT activities are introducing IT to facilitate educator communication and provide distance learning and web-based research opportunities for teachers and administrators. Also, the project is creating networking capacity and
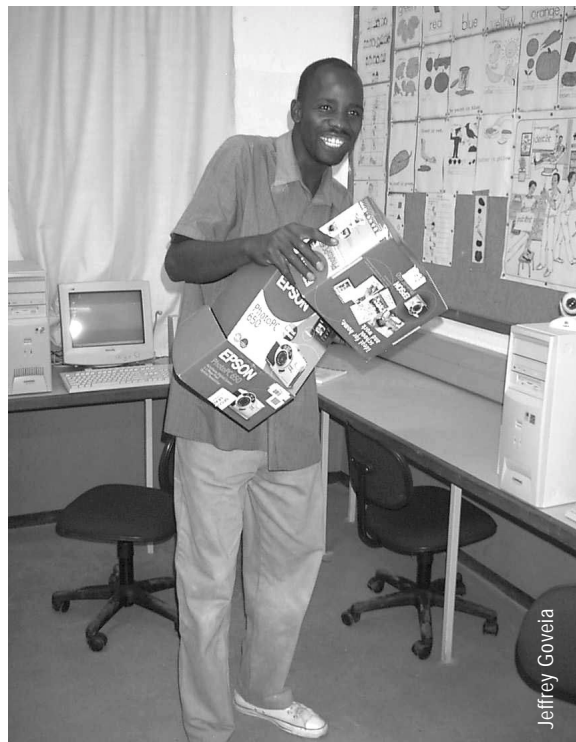
Kao, a "Kids on the Block" volunteer, preparing to set up the digital camera at Rundu

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computer centers at NIED in Okahandja and at Teacher Resource Centers (TRCs) in Rundu, Katima Mulilo, and Ongwediva.

As the only regional locus of support for local primary teachers, these TRCs support educators in the northern education regions, where the government historically has under-invested in education and where teacher preparedness is very low.

At the regional computer center at NIED, students take advantage of an opportunity to use the computers

As connectivity spreads throughout the country, the multimedia centers will become the mid-points of "spokes on a wheel," linked to NIED and the Ministry at the "hub" and extending out to local schools with both an online and a face-to-face network. Connectivity was achieved at NIED and the TRCs with line leasing and installation from UUNET/SchoolNet and its computer savvy youth known as "Kids on the Block." The computer centers offer multiple, interactive resources for teachers and administrators, including Internet and e-mail access. Future resources will include an online library of resources and training materials plus support for computer and application use and curriculum development. Community access during "off" hours may be offered on a fee-for-use basis.

UNIQUE ADAPTATIONS

Each TRC's small staff is expanding to include an Education Technology Trainee (ETT), who maintains the computers, provides computer and software help, and manages the computer centers. Presently, ETTs are mostly out-of-school youth or female high school graduates with low skill levels, who are receiving intensive training in computer technology, applications, network maintenance, and management skills. As a small step toward gender equity, hiring female ETTs offsets the predominance of males in IT positions in Namibia.

Another unique feature of this project is its focus on HIV/AIDs. LearnLink has purchased TRC computer center "mouse" pads with an HIV/AIDS health advisory. Further information dissemination about HIV/AIDS—directly affecting about one in five Namibian adults and reducing the number of teachers and technical

professionals—may be posted on the Namibia educational web site (www.edsnet.na/edsnet).

Known as the Educational and Development and Support (ED'S) Network, the web site is incorporating content from other USAID and NIED education projects. Most importantly, the web content will focus on dynamic teaching philosophies, approaches, and pedagogy compatible with the introduction of technology to enhance learning. Online training modules, resource materials, and chat opportunities are gradually being added to the web site. The site and the project itself are based on an open, highly interactive architecture and constructivist, learner-centered pedagogy.

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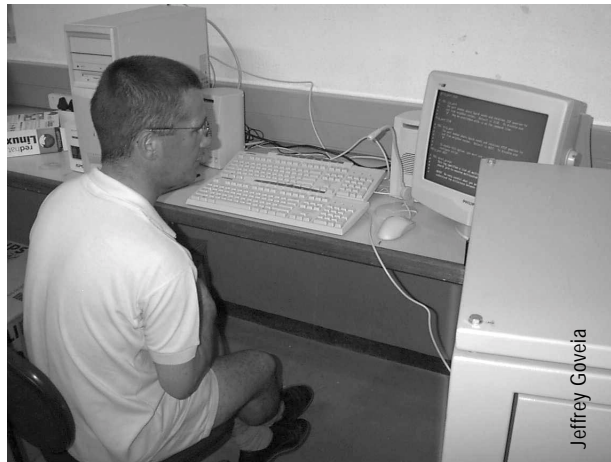
SchoolNet volunteer and local radio personality John Buckham configuring the server at Rundu

EMBEDDED IN A SOCIAL CONTEXT

Embedding training within project-based learning (PBL) exposes Namibian educators to other teaching methods that combine teamwork, discovery, critical and creative thinking, effective communication, and an active inquiry with responsible
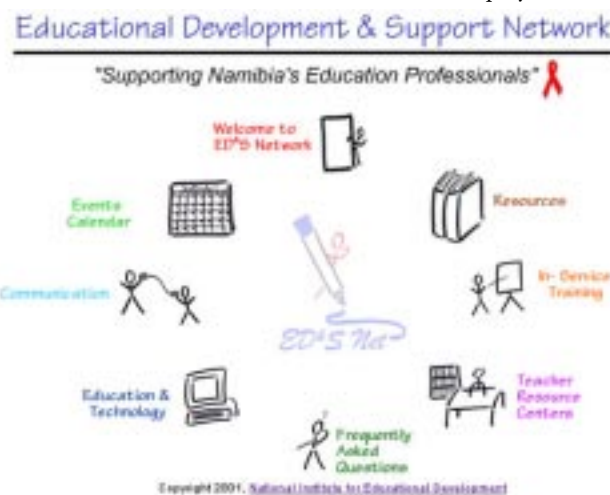
Splash page from the Namibian web site www.edsnet.na/edsnet

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participation. PBL is the pedagogy and application of concepts and skills to concrete problems, constraints, cases, and issues. It is learning imbedded in a social context. Learners take ownership and have fun within a learning process that can work for administrators, teachers, or primary school students.

Thus, CATT-Namibia's training model enables educators to adapt materials at the regional, district, or local level for use by anyone.

LearnLink is training NIED and TRC staff to become Master Information Teachers who will champion IT and, as such, will become key actors in improving instructional and school support and management. Using the PBL methods, the training is hands-on, combining computer literacy, application familiarity, and the integration of IT into instruction.

Additional pilot training will be conducted with 20 digitized modules of the NIED Teachers' Basic Competency Manual (TBCM), produced on a CD-ROM with LearnLink-CATT assistance. Using the Manual will be instrumental to improving the quality of in-service training for teachers who fall below the national standard for educational preparedness.

Evaluation of the CD-ROM with comparisons to other delivery methods, such as online instruction and face-to-face learning, will be used to demonstrate the capabilities, strengths, and weaknesses of IT in the delivery of professional development training.

EXPANDING ACCESS

As teachers and administrators gradually become acquainted with and apply IT

Enthusiastic visitors at the NIED computer center opening
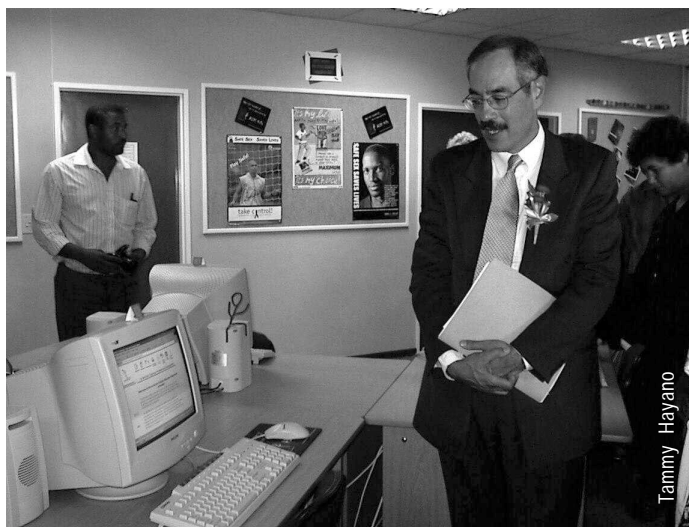
Thurmond Borden, Charge d'Affairs for the US Embassy in Namibia, examining a computer station at the NIED Grand Opening of its new facility

to learning and management functions, it is hoped that they will be better able to communicate and access knowledge. Moreover, this pilot may spur and expand on a large scale the process of adopting educational technology to strengthen and enhance learning, training, and communication by Namibian education professionals. By creating a virtual community in the education sector, especially in the historically-disadvantaged northern regions, educators will be able to draw on multiple multimedia capabilities—e-mail, listservs, chat messaging, web sites, discussion fora, file sharing, and voice and video—for building a strong education community.

Finally, it is hoped that providing noneducators with access to IT at the centers—and providing a working example of effective IT use by educators—will help to increase IT capacity in all sectors of Namibian society.

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